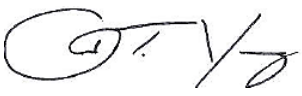
BROADBAND EXPANSION GRANT APPLICATION

For Fiscal Year 2022

Primary Applicant (Name and Address): Norvado, Inc. 43705 U.S. Highway 63 P.O. box 67 Cable, Wisconsin 54821 Norvado Inc. is a wholly owned subsidiary of Chequamegon Communications Cooperative Inc.	Applications MUST be UPLOADED to ERF via the Commission's website, http://psc.wi.gov/apps35/ERF_upload/content/mymenu.aspx. Refer to section 2.3 for detailed instructions. Applications are due and MUST be uploaded to ERF no later than: **March 17, 2022** at 4:00pm (16:00) Central Time. **Late applications will not be accepted.**
	Contact for further information: PSCStatebroadbandoffice@wisconsin.gov
	Date: March 10, 2022

The Public Service Commission of Wisconsin is seeking applications for Broadband Expansion Grants. The Commission may award one or more grants during Fiscal Year 2022 to public and private entities that meet the eligibility requirements set forth in Wis. Stat. § 196.504. This grant round will be funded with bond proceeds authorized by the Wisconsin Building Commission pursuant to Wis. Stat. § 13.48(30). As such, successful applicants are subject to the requirements of Wis. Stat. § 13.48(30). Successful applicants will demonstrate a clear and achievable plan to improve broadband communications services in one or more underserved areas in the State.

Applicant Certification: In signing this application, the undersigned verifies under penalty of perjury that the Applicant and its employees and agents have not, either directly or indirectly, entered into any agreement or participated in any collusion or otherwise taken any action in restraint of free competition with respect to this application; that no attempt has been made to induce any other person or firm to submit or not to submit an application; that this application has been independently arrived at without collusion with any other proposer, competitor or potential competitor; that this application has not been knowingly disclosed prior to the opening of applications to any other applicant or competitor; that all of the responses and representations of Applicant in this application are true and correct to the best of the undersigned's knowledge, information, and belief; and that Applicant agrees to, accepts, and will comply with all of the terms and conditions respecting this application and any award of a broadband expansion grant as may be established in a grant award Agreement.

Name of Authorized Representative (Type or Print)	Title	Phone ( )
Chad T Young	CEO	(715) 798- 7155
Signature of Authorized Representative 	Date 3/16/2022	

SUMMARY OF GRANT APPLICATION

Primary Applicant Name	Amount of Broadband Grant Request (round to nearest dollar)
Norvado Inc. A wholly owned Subsidiary of Chequamegon Communications Cooperative Inc.	$519,297
Federal Employer Identification No. 39-1891262	Amount of Matching Funds Pledged (round to nearest dollar) $519,297
Contact Name and Title Chad Young CEO	Total Cost of Proposed Project (round to nearest dollar) $1,030,594
Telephone Number (715) 798-7155	Project Name Windigo Lake
E-mail Address(es) cyoung@norvado.com	Type of Proposed Broadband Service (FTTH, Cable, DSL, etc.) FTTH
Grant Manager, if different than Primary Applicant N/A	Grant Manager Federal Employer Identification No. N/A
Grant Manager Contact Name N/A	Grant Manager Email Address and Telephone Number N/A

If the Application Includes a Partnership, List the Names, Addresses, and FEINs of the Partner Companies or Organizations

Brief Project Description

Norvado Inc. ("Norvado"), a wholly owned subsidiary of Chequamegon Communication Cooperative Inc. d/b/a Norvado, is submitting this application for a Fiber-To-The-Home ("FTTH") project in the Town of Bass Lake in the Hayward rate center. This Project will bring Multi-Gigabit services to 130 locations of which 116 of the locations are considered un/underserved ("Project").

Maximum Proposed Download Transmission Speed	Maximum Proposed Upload Transmission Speed
2 Gbps	2 Gbps
Minimum Proposed Download Speed Available To Purchase 300 Mbps	Minimum Proposed Upload Transmission Speed Available To Purchase 300 Mbps
County or Counties served by this project	Community or Communities served by this project

Sawyer County	Town of Bass Lake
List of the broadband service providers, if any, currently serving the area the applicant proposes to serve CenturyLink/Lumen is the only fixed wireline Broadband service provider in the Project area.	
Does proposed project serve an *unserved* area of the State, as defined in Section 1.4 of the application instruction? (yes/no) Yes	Is the Applicant certified as a Broadband Forward! Community or Telecommuter Forward! Community, or does the grant project propose to serve a Broadband Forward! Community or Telecommuter Forward! Community? (yes/no) Yes - Sawyer County is both a Broadband Forward! and Telecommuter Forward! Community.
For last mile projects or component the expected number of Business Locations that will have access to the improved broadband service (i.e., total business locations passed or with new service access). 1	For last mile projects or components the expected number of Residential Locations that will have access to the improved broadband service (i.e., total residential locations passed or with new service access). 129
Of the improved business locations, how many locations are *unserved*? 0 Unserved, 1 Underserved	Of the improved residential locations, how many are *unserved*? 1 Unserved, 114 Underserved
For providers that are eligible telecommunications carriers will the proposed broadband service be available to Lifeline customers? (yes/no) – YES	Are there any programs available for low-income households to access low-cost service or discounts? (yes/no) YES
Is the internet service provider currently participating in the Emergency Broadband Benefit Program? (yes/no) YES, and we participate in it's successor program affordable connectivity program (ACP)	Is the internet service provider currently participating in the Department of Public Instruction and CESA purchasing's Digital Learning Bridge? (yes/no) Yes, we are on the list of eligible vendors under internet providers on the Digital Learning Bridge.
Did the internet service provider participate in the Public Service Commission's voluntary Broadband Coverage Data Collection in 2012? (yes/no) Yes	

Project Budget and Summary

FY22 Broadband Expansion Grant Application

Budget & Income Summary

Wisconsin Broadband Office

Please complete this form using Microsoft Excel. A PDF copy must be attached to your application as page four. In addition, this form must also be uploaded to ERF in Excel format.

Grant Summary

Grant Applicant:	Project:
Norvado, Inc.	Windigo Lake

Budget

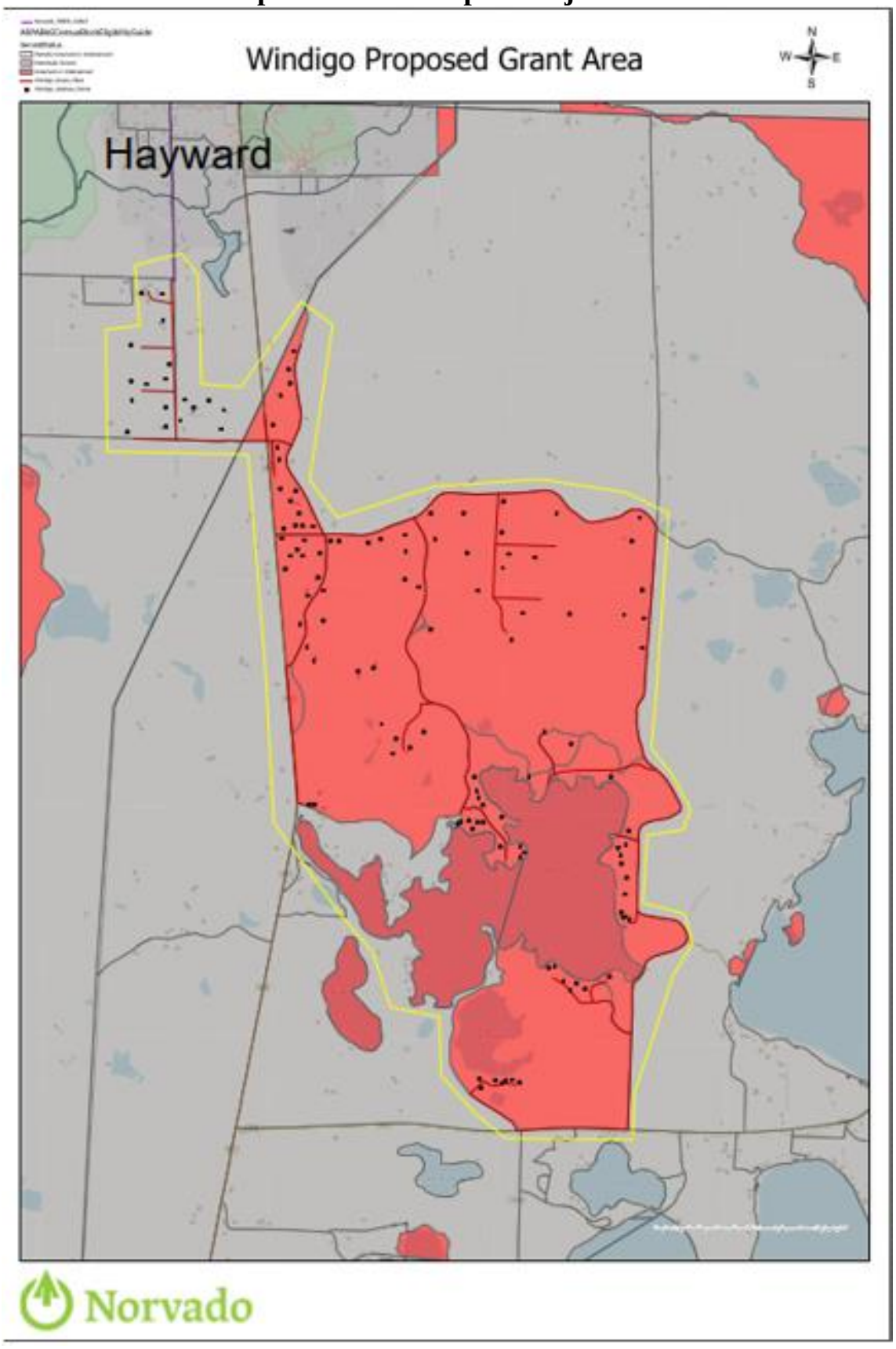
Line:	Description / Category:	Grant Funds:	Match:	Total:
1	Contractual, Consultant Fees	$ 463,003.00	$ 463,003.00	$ 926,006.00
2	Equipment	$ 34,415.00	$ 34,415.00	$ 68,830.00
3	Supplies	$ -	$ -	$ -
4	Labor (Salary, Fringe)	$ 12,879.00	$ 12,879.00	$ 25,758.00
5	Permitting, Licensing Fees	$ -	$ -	$ -
6	Travel	$ -	$ -	$ -
7	Other	$ 12,500.00	$ 12,500.00	$ 25,000.00
	Total:	$ 522,797.00	$ 522,797.00	$ 1,045,594.00
		50.0% match requested		

Pledged Contributions

#:	Entity:	Entity Type:	Pledge Type:	Pledge:
1	Norvado, Inc.	Applicant	Cash	$ 522,797.00
2				
3				
4				
5				
6				
7				
8				
9				
10				
			Total:	$ 522,797.00

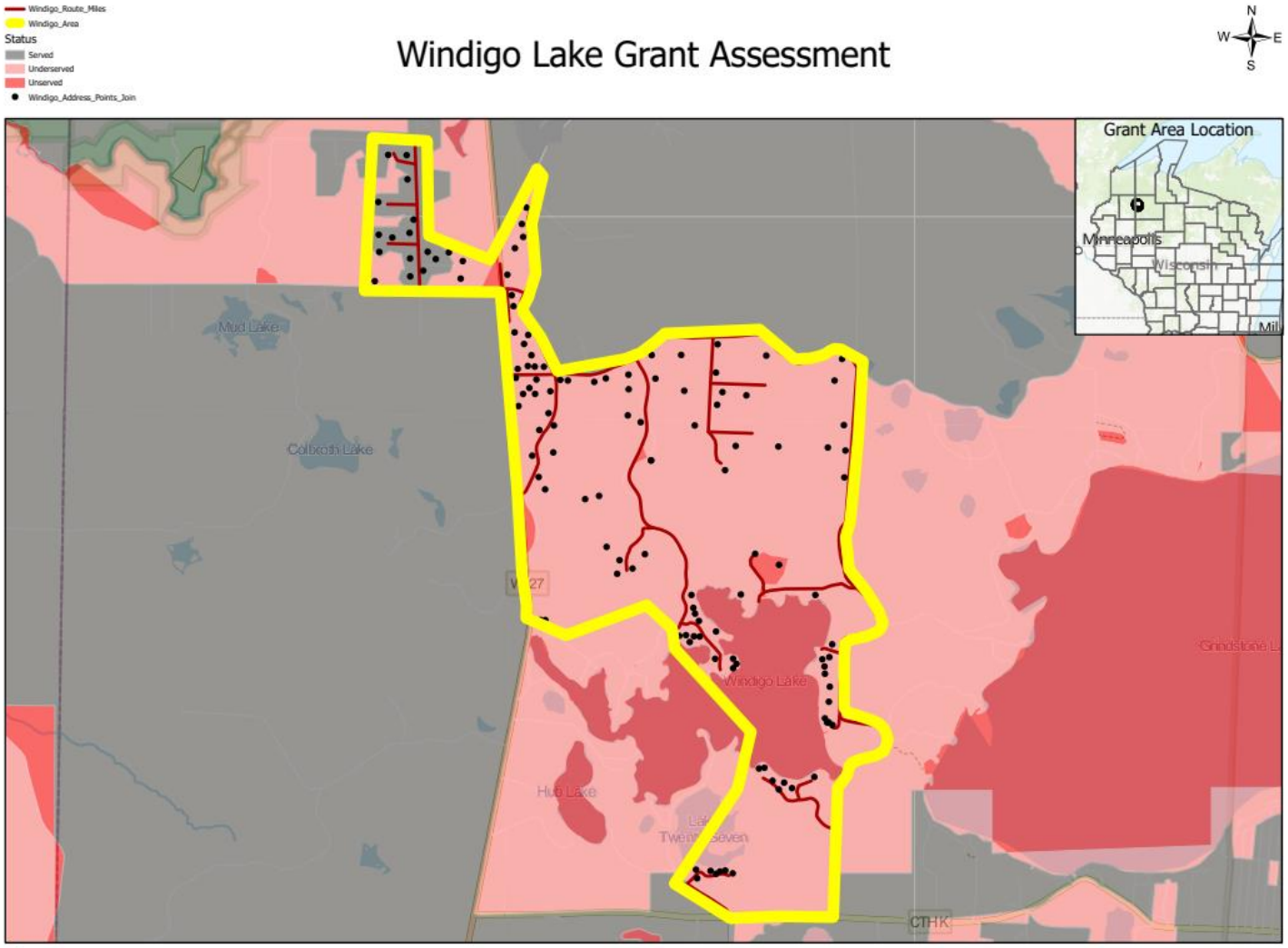
Maps

Map #1 – Detail Map of Project Area



Map # 2 - PSC Broadband Map of Underserved AND Unserved areas

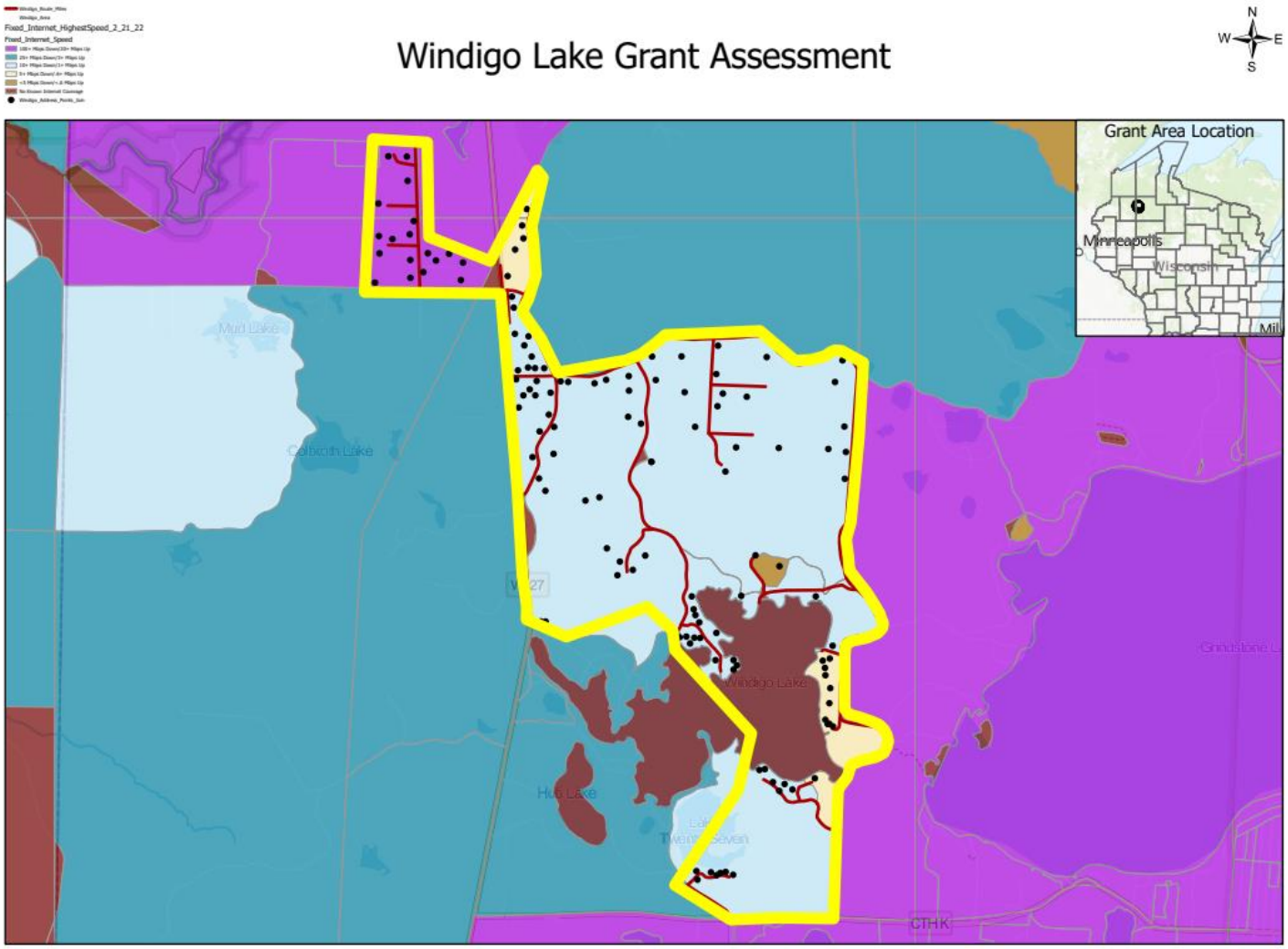
Windigo_Lake PSC
Served_Unserved 8.5›



Norvado

Map #3 - PSC Broadband Map of Fixed Wireline Speeds

Windigo_Lake PSC
Fixed Wireline Speeds



Norvado

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1.1	Broadband Expansion Grant Application
1.2 & 1.3	Summary of Grant Application
1.4	Summary of Project Budget and Income Summary
1.5 - 1.6	Maps
	Map #1 Detail Map of the Project Area - Yellow border indicates Grant Area
	Map #2 PSC Broadband Map of Unserved/Underserved
	Map #3 PSC Broadband Map of Fixed Wireline Speeds
1.7	Table of Contents
2	Executive Summary
3	General Application Requirements including Table 1 and Table 2
3.2.5	History of Norvado Inc.

Exhibits:

Exhibit A: Letters of Support
1) Town of Bass Lake
2) State Representative Edming
3) State Senator Petrowski

Exhibit B: Public Private Partnership Agreement(s)
1. none

Exhibit C: Summary of Broadband Survey

2.0 EXECUTIVE SUMMARY

Norvado Inc., ("Norvado") is Competitive Local Exchange Carrier ("CLEC") certified by the Public Service Commission of Wisconsin to provide telecommunications services. Norvado is a 100% owned subsidiary of Chequamegon Communications Cooperative, Inc. ("COOPERATIVE"). COOPERATIVE is also a Wisconsin corporation certified by the Commission as an Incumbent Local Exchange Carrier ("ILEC") to provide telecommunications service in Wisconsin.

COOPERATIVE has been operating as the local telecommunications provider in its designated 2,500 square mile territory since 1950 and currently provides Broadband Internet access using a 100% Fiber-To-The-Home ("FTTH") network throughout its entire ILEC service territory. Broadband speeds of up to 2 Gigabits are now available throughout the entire COOPERATIVE ILEC service territory.

Norvado has been providing telecommunications service in Northwestern Wisconsin since 1997. Norvado currently serves approximately 2,800 voice lines, 600 internet customers, and about 200 IPTV subscribers using 80% FTTH and 20% copper plant facilities.

Norvado is applying for a Wisconsin PSC Broadband Expansion Grant ("Grant") to extend its Fiber-To-The-Home ("FTTH") network in Sawyer County. This Project will build approximately 16 miles of fiber as an extension of Norvado's existing fiber network, with dedicated last mile fiber to about 130 locations in un/underserved areas in the Town of Bass Lake ("Project").

The construction extension of FTTH Broadband to this underserved area will provide subscribers a high quality and reliable communications infrastructure to expand their work from home, educational, economic, and healthcare opportunities. The locations passed will be able to access speeds up to 2 Gbps download / 2 Gbps upload. The underserved area is currently served by CenturyLink using copper facilities, has no other wireline provider.

The estimated construction cost for the Project is $1,045,594. The Grant request in this Application is $522,797 or 50% of the new construction costs. The balance of the construction costs, $522,797, will be paid for by Norvado.

FTTH is the perfect solution for this service area as it has upside potential for broadband speeds which is almost unlimited. Norvado would install technology called Gigabit Passive Optical Network ("GPON") which not only provides high speed broadband for Internet access, but also could provide digital IP based voice and video services. Norvado will provide these broadband speeds with Internet access, all with no data caps, to customers:

Service in Mbps (no data caps)					
Residential			***Commercial***		
Down	***Up***	***Price***	***Down***	***Up***	***Price***
300	*300*	*$79.99*	*500*	*500*	*$99.99*
500	*500*	*$99.99*	*1.0 GB*	*1.0 GB*	*$149.99*
750	*750*	*$119.99*	*1.5 GB*	*1.5 GB*	*$259.99*
1.0 GB	*1.0 GB*	*$149.99*	*2.0 GB*	*2.0 GB*	*$459.99*

Norvado's price for 300/300 service is significantly lower than average. The FCC's current benchmark for this tier is $110.60 per month.

3.0 GENERAL APPLICATION REQUIREMENTS

3.1 Application organization and format

This application should be typed, converted to a PDF format and uploaded to the Commission server using the ERF system.

3.2 Mandatory application requirements

An applicant must include the following information in its application to be eligible for this grant and the application must demonstrate satisfaction of indicated requirements.

3.2.1. Applicant identification and contact information

a. The name and address of the entity applying for the grant, and the mailing address, telephone number and e-mail address of one or more contact persons representing the applicant.

Name of Entity: Norvado Inc.	**Contacts**
Mailing Address: 43705 U.S. Highway 63 PO Box 67 Cable, Wisconsin 54821	Chad Young, CEO 43705 US Hwy 63 Cable, WI 54821 cyoung@norvado.com
Main Telephone Number: 715-798-3303	Bob Thompson - CFO 43705 US Hwy 63 Cable, WI 54821 rthompson@norvado.com

b. If the application proposes a public-private partnership, the identity and contact information for all application partners.

This application does propose a public/private partnership agreement as follows: Mailing Address:

c. The application must show that the applicant is an organization, a telecommunications utility or a city, village, town, or county that has established a legal partnership or joint venture arrangement with an otherwise qualified organization or telecommunications utility, and as such meets the eligibility requirements set forth in Wis. Stat. s 196.504(1).

Norvado. is an Alternative Telecommunications Utility certified to provide telecommunications service in the State of Wisconsin pursuant to Section 196.203 of the Wisconsin State Statute. Norvado's PSCW Utility # is 1065 and currently serves the Wisconsin study area #339003.

3.2.2. Description of the project

a. A static map and description of the area of the State that will be affected by the proposed project.

The attached Maps on Page 5-6 show the proposed broadband Project area. The proposed area is in the Town of Bass Lake, Sawyer County, WI, in the CenturyLink/Telephone USA, Hayward, WI rate center. As provided in the Executive Summary this Project includes an unserved and underserved area.

Table 1: Project Area Advertised Speed:

Service Provider:	***Type***	***Down***	***Up***
Unserved Area:			
No providers available in the unserved areas			
Underserved Area:			
CenturyLink/Lumen	*ADSL*	*10Mbps*	*1Mbps*
CenturyLink/Lumen	*ADSL*	*15Mbps*	*.750Mbps*
CenturyLink/Lumen	*ADSL*	*40Mbps*	*3Mbps*
*** T-Mobile*	*Fixed Wireless*	*25Mbps*	*3Mbps*

The unserved and underserved areas are defined by Map #2 on Page 6 and includes about 116 locations per the PSC/FCC 477 data. Norvado. will provide a FTTH network to all locations requesting Norvado broadband service.

*** Fixed wireless service in limited locations in Project area.*

b. If the project area lies within a census block designated as served on the PSC Broadband Map, provide additional documentation to demonstrate the actual broadband service that is available in the proposed project area.

There are 14 served locations out of the 130 locations in this project area per the PSC Broadband maps. The locations considered served are using CenturyLink copper facilities not capable of providing service of the FCC minimum 25/3 and/or fixed wireless service.

There are no fiber to the home providers in the unserved, underserved, or served locations in the Project area

c. An explanation of how the proposed project will increase broadband access.

This proposed project would increase broadband access as follows:

1) Potential and expected number of households served:

a) Potential households in unserved area are 1. Expected households to be served are 1. The remaining households are expected to be served at their request.

b) Potential households in the underserved area are 114. Expected households to be served are 57.

2) Potential and expected number of businesses served:

a) Potential business locations in the unserved area are 0. Expected business locations to be served are 0. Once broadband service is available in this unserved area businesses will locate in the area. Broadband service will be provided as requested.

b) Potential business locations in the underserved area are 1. Expected business locations to be served are 1.

3) Expected number of seasonal residents and tourists served.

The Project area is expected to have a similar seasonal resident rate as the other surrounding areas that are currently served by Norvado which is approximately 15% of the total number of locations.

4) Estimated download and upload speed of the broadband service packages available for purchase.

Norvado will provide broadband down/up speeds at a minimum 300 Mbps/300 Mbps with up to 2G Gbps/2G Mbps available to all locations. Reference table in the Executive summary for details on all speed offerings and pricing.

d. A statement whether the proposed project is targeting the "last mile," "middle mile," or "backbone" portion of the broadband infrastructure.

The proposed Project is targeted for last mile of the dedicated broadband infrastructure. Norvado. is currently providing wireline broadband service and has access to adequate middle mile and backbone Internet access.

e. A description of the broadband service to be provided, including estimated download and upload speeds, whether that speed is based on dedicated or shared bandwidth, and the technology that will be used. This description may be illustrated by a map or schematic diagram, as appropriate.

Norvado. will provide dedicated broadband service using a Fiber-To-The-Home network with Gigabit Passive Optical Network ("GPON") and XGS-GPON technologies. This fiber network will be the same as the fiber network currently in place and used in the existing Norvado service territory. This technology utilizes dedicated fiber connectivity from a central office location to the customer premise.

Service in Mbps (no data caps)					
Residential			***Commercial***		
Down	***Up***	***Price***	***Down***	***Up***	***Price***
300	*300*	*$79.99*	*500*	*500*	*$99.99*
500	*500*	*$99.99*	*1.0 GB*	*1.0 GB*	*$149.99*
750	*750*	*$119.99*	*1.5 GB*	*1.5 GB*	*$259.99*
1.0 GB	*1.0 GB*	*$149.99*	*2.0 GB*	*2.0 GB*	*$459.99*

f. A schedule by which the applicant intends to complete the components of the proposed project. The project period is up to 24 months.

If the grant application for the Project is approved by May 2022, Norvado. is proposing the following schedule:

May – June 2022	*Order cable and equipment***/Staking*
March 2023 – August 2023	*Bury cable, splice mainline, bury pre-ordered drops*
July 2023 - September 2023	*Install Equipment and Fiber mainframes in Central Offices*
April 2024	*Request final payment of Grant Funds*

**** Currently the industry is experiencing supply chain issues. Construction times will be adjusted based on availability of materials.*

3.2.3. Itemized Budget

a. In addition to the Summary of Project Budget that is included as page 4, applicant should include a price list or quote for any equipment the applicant intends to purchase, including capital expenditures. The application should also indicate whether the facilities involved would be owned, rented, or leased.

Table 2: Project Construction Costs:

The Town of Bass Lake, Sawyer County FTTH Project summary of the construction cost for the fiber network. All fiber construction will be provided by a third-party contractor. The network will be 100% owned by Norvado.

Line Item	Description	Units	Unit Cost	Amount	Subtotal
1	Fiber Construction (includes fiber cable)	16	$53,080	$849,280	
2	Contractor Conversions	59	$276	$16,284	
3	CO Equipment installation	80	$115	$9,200	
4	Engineering	3%	of Lines 1-3	$26,242	
5	Legal & Professional Fees			$25,000	$926,006
Equipment					
6	Splitter Cabinet	1	$20,000	$20,000	
7	Fiber Chassis	0	$0	$0	
8	Splitters	3	$2,060	$6,180	
9	Optinid/ONT's/jumpers	65	$610	$39,650	
10	Fiber Entrance and Distribution	0	$3,500	$0	
11	GPON/OLT	3	$1,000	$3,000	$68,830

Labor (Salary & Fringe Benefits)					
12	Norvado Labor	486	$43	$20,898	
13	Fringe Benefits	486	$10	$4,860	$25,758
Permitting & Licensing Fees					
14	County (included in Engineering)	0	$500	$0	
15	Town (included in Engineering)	0	$200	$0	
16	RR Crossing	0	$7,600	$0	$0
Other					
17	Digital Literacy	1	$25,000	$25,000	$25,000
Total Construction Cost Budget					$1,045,594

b. The application must show that the grant, if awarded, will not subsidize the expenses of a telecommunications provider or the monthly bills of telecommunications customers. For purposes of this grant program, subsidy means a contribution to the operating costs, including profit, of the telecommunications provider.

The grant funds requested will not subsidize the expense to provide telecommunications services to end user customers.

The grant funds requested in this Application will only be used to help pay for a portion of the fiber network and electronics used to provide broadband. No grant funds will be used for monthly recurring operating costs for broadband or telecommunications services.

c. The application must show that the grant funds requested will be used for the sole purpose of constructing broadband infrastructure in the underserved areas covered by the application. Construction of broadband infrastructure may include any of the following:

- Project planning that takes place during the performance period.
- Obtaining construction permits.
- Construction of facilities including construction of both "middle mile" and "last mile" infrastructure.
- Installation and testing of the broadband service.

See Table 2 above for a summary of construction costs.

3.2.4. Priority factors supporting the application

a. **Matching funds**. A description of the matching funds the applicant will invest in the proposed project, if any. For each element, indicate the type of match (cash, salary expense, or in-kind contribution). If the application is submitted by a partnership, identify the partner responsible for providing each element of the proposed matching funds. Note: The requirement for this information is satisfied via inclusion of the completed Funding Statement as page 4 of the Application.

- If available, provide documentation to support an offer of matching funds (minutes of a town board meeting, a letter from a prospective customer or local government official, etc.).
- Matching funds contributions must be a firm commitment of funding to the project. Contributions that vary based on the amount of actual sales, customer contributions, or other criteria will not be given weight.

As provided on page 4 the total construction costs for this fiber project is $1,045,594. This does not include the cost of the existing Norvado broadband network back to the serving wire center or the existing broadband electronics currently in place to provide broadband service to existing customers. Norvado matching funds will be a combination of cash and Norvado labor. See page 4 of the Application. Detail of the matching funds is provided in Funding Statement on page 4 of the Application.

The grant request in this application is $522,797 or 50% of the new construction costs. These funds will be used for third-party contractors for the fiber and burying the fiber.

The Town of Bass Lake is supportive of the Norvado FY 2022 Broadband Expansion Grant Application in Sawyer County.

The balance of the construction project will be paid for by Norvado.

b. **Public-private partnership**.
If the public-private partnership is memorialized in a joint venture agreement or other writing, provide a copy of that agreement. If the partnership has not been reduced to a written agreement, provide a short description of the management role, financial commitment, or other contribution to the project for each participating partner.
- In scoring this element, information regarding active engagement of diverse communities in the planning, permitting, or marketing of the project will be given weight as well.

This Project includes the following Public Private Partnership Agreement:

None.

c. **Existing broadband service**. A list of the broadband service providers, if any, currently serving the area the applicant proposes to serve. In scoring this element, the following factors will be taken into account:
- The degree to which the proposed project avoids duplicating existing broadband infrastructure.
    - *There are currently no other providers in the proposed Project who utilize fiber to the home broadband infrastructure to deliver a highly scalable long term broadband solution.*
- The application of a wireless broadband service provider proposing significant overlap with existing broadband service in addition to service to an unserved area will not be given priority consideration.
    - *N/A*
- Provide a list of all landline broadband service providers (DSL, cable or fiber to the home) and fixed wireless broadband service providers that overlap the footprint of the proposed broadband project.

- *See Section 3.2.2.a Table 1 for a summary of known wireline and fixed wireless broadband service providers in the Project area.*

- If known, provide an estimate of the customers within the proposed footprint that are served by competing landline and fixed wireless broadband service providers, and the download/upload speeds offered by those competing service providers.
  - *Unknown*
- Provide a list of mobile wireless broadband service providers that overlap the footprint of the proposed project.
  - *Unknown*
- If known, provide an estimate of the customers within the proposed footprint that are served by competing mobile wireless broadband service providers, and the download/upload speeds offered by those competing service providers. (The presence of existing mobile wireless providers does not contribute to or affect the evaluation of existing broadband service in the project area for purposes of priority consideration but provides a more complete picture of the broadband options available to residents.)
  - *Unknown*

d) **Project impact**. A description of the geographic area and the population, both in terms of absolute numbers and likely users, which will be serviced by the proposed project. Indicate the number of anticipated residential and business customers in the project area, if known. Explain the speed and quality of internet service that will be available. Include information about the range of packages available for purchase. Provide details on any low-income access programs and steps the project will take to support adoption.

The Project currently includes 129 resident locations and 1 business location.

If the Commission awards the grant application to Norvado the following broadband expansion will occur:

1) *All 115 resident locations in the unserved and underserved area will have access to up to1Gbps/1Gbps broadband service.*

2) *The 1 business location in the unserved area will have up to 2 Gbps/2Gbps broadband service available from Norvado.*

Future homes and businesses in the Project area through growth and developments will also be served by this network.

The Norvado fiber route and FTTH Project provides high-speed broadband service to approximately 130 locations. Residents at these locations will benefit by the availability of the fiber route from:

- *Access to health care services through the use of Telehealth;*
- *Being able to work from their homes or telecommute to their business locations;*
- *Having the ability to attend school remotely.*
- *Enabling seniors to age in place with better remote monitoring of health metrics, sensing of activity, and high speed access to emergency services*

e) **Scalability**. A description of how the proposed project could expand or improve the broadband service it delivers, while maintaining the quality of its broadband service. This description should include specific projected increases in the following parameters that are known at the time of the application:

- The number of users.
- The number of network nodes.
- The number of services provided.
- The geographic area served by the project.

This description may also include a discussion of possible growth potential that is outside the commitment the applicant is making as part of its application.

The FTTH Project is Scalable and would provide Norvado a pathway to service future dwellings in unserved and underserved areas in the future.

The Norvado broadband Project described in this Application will be built to provide broadband service to the current 130 locations, 2 Gbps service to all future businesses in the Project area and will also be built to provide service to any new residential subdivisions in the Project area.

The fiber network for this Project, which is included in this area, will be the fiber backbone for the future economic development in the Project area.

The core infrastructure is designed to allow ease of expansion into adjacent unserved and underserved areas.

Although we will be launching service with up to 2G/2G services, the system architecture supports up to 10G/10G services without the need to add additional equipment.

The core backbone feeding the FTTH Project is a redundant 100Gbps network topology. This will facilitate scalability up to 40Gbps symmetrical services.

The access node equipment is designed to support up to 2500 subscribers in a 40 Kilometer radius.

g) **Economic Development.** A description of how the proposed project will promote job growth or retention, expand the property tax base or improve the overall economic vitality of the municipality or region. This description may be supplemented with a letter from one or more persons discussing the potential economic impact the project could have for that individual or business.

In scoring this element, the following factors will be taken into account:

- A discussion of potential economic impact the project could have for an individual business located in the project area.
- An explanation of how an improved download and upload transmission speed could better support a specific business in the project area.
- An explanation of the likely impact improved broadband service could have on residential property values, supported by local sales data if available.
- A demonstration of how improved broadband service to a residential portion of the project could benefit a telecommuting population.
- A demonstration of how the speeds and service being offered by the project fits with current and future economic needs of the community and local businesses.

GDP:

Our study suggests that communities where gigabit broadband was widely available enjoyed higher GDP, relative to similar communities where gigabit broadband was not widely available. The 14 communities with widely available gigabit broadband that we studied enjoyed over $1 billion in additional GDP when gigabit broadband became widely available, relative to communities where gigabit broadband was not widely available. Looking at 14 communities in nine states, we conclude that next generation broadband is likely to have a substantial impact on economic output and, consequently, consumer welfare. These gains are likely due to numerous factors, including the direct effect of infrastructure investment and increased expenditures, as well as early shifts in economic activity (e.g., job creation and occupational changes) and productivity gains. For example, recent reporting on gigabit broadband service in Chattanooga, Tennessee has attributed 1,000 new jobs, increased investment, and "a new population of computer programmers, entrepreneurs and investors" to gigabit broadband.8 As more communities adopt gigabit broadband and the economy adapts to this new technology, economists will be able to extend the research on the economic impact of gigabit broadband

Credit: Early Evidence Suggests Gigabit Broadband Drives GDP (analysisgroup.com)

Jobs:

We examine the effects of broadband speed on county unemployment rates in the U.S. state of Tennessee. We merge the older National Broadband Map dataset and the newer FCC dataset in lengthening our broadband access data over the period 2011–2015. Extending the dataset improves the precision of the estimates. Our panel regressions control for potential selection bias and reverse causality and show that broadband speed matters: unemployment rates are about 0.26 percentage points lower in counties with high speeds compared to counties with low speeds. Ultra-high-speed broadband also appears to reduce unemployment rates; however, we are unable to distinguish between the effects of high and ultra-high-speed broadband. We document beneficial effects of the early adoption of high-speed broadband on unemployment rates. Better quality broadband appears to have a disproportionately greater effect in rural areas.

Credit: Broadband speed and unemployment rates: Data and measurement issues - ScienceDirect

Real Estate:

"When evaluated at the sample median house price of $175,000, [research suggests] that access to fiber may be associated with about a $5,437 increase in the typical home's value," the researchers wrote. "This is roughly equivalent to a fireplace or just under half the value of a bathroom."

Credit: Broadband and Home Values: FTTH Council Study Looks at Fiber Impact - Telecompetitor

A **2015 white paper** *by the Fiber to the Home Council Americas goes even further, citing data from the University of Colorado at Boulder. Apparently, not only does a fiber connection add an average of 3.1 percent to a property's value, but valuations are increased by an additional 1.8 percent when comparing areas with connectivity speeds of 100Mb/s with those that support 1Gb/s or more.*

Credit: Commercial Real Estate Value Based on Location... and Access to Fiber (atlantech.net)

Access to labor market:

Industry association US Telecom, which tracks broadband job creation statistics, showcases how broadband enables at least 10 million new jobs in America alone. The ITU points out that governments in the US, Germany, Australia, New Zealand, Portugal, Singapore, and Ireland are among those that have invested in broadband connection as a "counter-cyclical measure," creating jobs by improving infrastructure.

Research by the US Federal Reserve also found that labor force participation among married women increases by 4.1 percent with the introduction of high-speed Internet access.
Communities with broadband access can include many skilled workers in their labor force who might otherwise be excluded. Connecting people whose mobility is restricted by family, health, or other considerations enables them to contribute greatly to their societies, and their societies' economies.

Credit: 3 Ways Fast Broadband Contributes to Economic Growth (tech.co)

Increased Workplace Productivity:

The ITU report discusses the difficulty of figuring out just how much productivity is increased by faster, and better Internet connectivity. Increased broadband access is obviously associated with higher productivity – but is it causing the improvement? Or is broadband performance and access improved by other factors which also increase productivity?

The answer seems to be that both are true. The ITU study cites that for each increase of 1 percent in broadband penetration across OECD countries, productivity grows by 0.13 percent. This increase may seem modest, but the effects are cumulative – a significant increase in high-performance Internet access can have a major impact on productivity.

In almost every country, rural areas are often underserved by fast, unlimited broadband services. Enhancing connectivity in these markets can broaden their employment base beyond traditional industries. Individuals benefit with more job opportunities and better services. Communities benefit from higher employment and reduced isolation. Nations benefit from communities made more self-sufficient, even while more closely connected.

Credit: 3 Ways Fast Broadband Contributes to Economic Growth (tech.co)

h) **Effect upon broadband service to adjacent areas.** A description of whether the proposed project will or will not impair the ability of a broadband service provider or competing broadband service provider to extend broadband service to areas adjacent to the proposed project area.

This Project will not impair the ability of a broadband service provider to extend broadband service to areas adjacent to this Project area. Norvado plans to offer broadband service to all unserved and underserved locations in the Project area.

Norvado envisions this Project will be the cornerstone to expand into adjacent areas in the next Grant round.

The design includes a central office in the Winter area. This equipment will be capable of serving locations outside of the immediate project in a 40 Kilometer radius.

3.2.5. Other information supporting the application

a. A description of applicant's history or experience constructing broadband communications facilities in the state and elsewhere.
   - If applicable, an applicant must comment upon the status of all prior broadband expansion grant projects, including the type of broadband technology used, the facility route actually built or installed, the number of residential and business customers actually connected, and other relevant details of the prior project(s).
   - An applicant may also comment on broadband construction projects undertaken in prior years that were not funded in part by the Broadband Expansion Grant program.

Norvado and its parent, COOPERATIVE, have the experienced staff and finances to undertake this project.

For over 70 years Norvado and Chequamegon Communications Cooperative Inc. ("COOPERATIVE") have been providing state of the art telecommunication services in Ashland, Bayfield, Douglas, Price and Sawyer Counties in Wisconsin. Industry leadership events for COOPERATIVE include:

(1) offering dial-up Internet to its end user customers since close to the inception of the modern Internet,
(2) upgrading the Internet offering in 1998 by offering DSL services, and
(3) rolling out Broadband over Fiber-to-the-Home starting in 2008.

In 2020 COOPERATIVE completed its FTTH network buildout which provides high speed Broadband services to 100% of its ILEC customers. COOPERATIVE has been recognized at the National level as being a Gig Broadband provider. COOPERATIVE has also received the "GIG Certified" designation by NTCA - The Rural Broadband Association ("NTCA"). This means our network was tested and was certified capable of speeds up to 1 Gigabit per second (Gbps). These designations set our communities apart from other communities that do not have a provider capable of speeds up to 1 Gbps, which helps attract residents and businesses to our area.

Customer satisfaction is of utmost importance to COOPERATIVE and Norvado. Customer satisfaction ratings over the past 4 years have exceeded 97% in the categories measured (meeting scheduled appointment times, satisfaction with the work performed, timely completion of work, and level of training provided by the technicians). Ultimately customers want their services to work and Norvado's network has been performing at or above 99.98%.

In COOPERATIVE's and Norvado's Northern Wisconsin rural areas take rates typically range from 55% to 75% of locations with a 911 address. This percentage reflects how many addressable locations want service installed to that location.

Norvado has an excellent track record in completing projects on time including the grant projects documented in the next section below where all deadlines have been met. In addition to the grants, over the past 13 years COOPERATIVE and Norvado have invested over $65 Million for Fiber-to-the-home broadband expansion. These projects have brought Gigabit services to over 12,000 locations that now have access to the best broadband services available.

Norvado has been awarded 7 Wisconsin Broadband Grant Projects. These 7 projects total over $4.5 Million with Wisconsin Grants awarded covering $2.4M of the projects. Of these 3 were completed within 2 years of award. Construction will be starting on the other projects in 2022 or 2023 with planned completion by 2024.

Project	*FY*	*Award*	*Status*
Red Cliff Band of Lake Superior Chippewa	*2020*	*$ 107,698*	*Completed 2020*
Town of Cloverland	*2020*	*$ 443,000*	*Completed 2021*
Sawyer County OO Fiber Route (Birkie)	*2020*	*$ 41,400*	*Completed 2020*
Lower Eau Claire Lake Bayfield County	*2021*	*$ 141,070*	*Construction 2022*
Washburn – Bayfield County	*2021*	*$ 483,365*	*Construction 2023*
Barksdale – Bayfield County	*2021*	*$ 624,580*	*Construction 2023*
Town of Lenroot – Sawyer County	*2021*	*$ 613,130*	*Construction 2022*

b. A description of how the proposed project will or will not duplicate existing broadband infrastructure.

There is no existing fiber infrastructure in the Project area. In the unserved area there is no wireline provider. CenturyLink is the only wireline provider in the underserved portion. They provide up to 40MB/3MB service in those areas.

Norvado will utilize buried fiber optic infrastructure to provide broadband speeds of up to 2 Gbps to requesting locations.

c. A description of an applicant's financial ability to undertake the proposed broadband construction project. This may include information such as the number of years the company has been in operation, documentation of successful completion of similar infrastructure projects, evidence that sufficient funds are available to cover project expenditure and match, customer turn-over rates, and credit rating.

Norvado, and its parent company, have been providing broadband service since 1998. Norvado has the experienced staff and finances to undertake this Project. See the Section 2.0 - Executive Summary for history of Norvado, Inc. See Section 3.2.5(a) for a list of broadband projects successfully completed by Norvado.

Norvado, Inc. does not have any debt and will fund its portion of the project from existing operations. Since the end of 2019 Norvado's customer base has grown 25%.

d. A description of how the proposed project will affect the ability of individuals to access health care service from home, including any impact upon the costs of those services.
   - Specific information from a hospital or clinic in the project area that currently uses or intends to use home-based telemedicine equipment to enhance access health care service would best illustrate this point.

There are no hospitals or clinics in the project area. *All customers that request Norvado's high speed and low latency broadband service will have more than adequate broadband speed available to have access to health care facilities from their home. This broadband service will help reduce health care costs for transportation to medical facilities, office visit charges and provide faster response times. Customers will also be able to take advantage of online health monitoring*

applications. Access to online services such as blood pressure and blood clot monitoring, oversight of insulin and pain pumps, in home cancer treatments, exercise and diet monitoring, adjustment to pacemakers and other heart monitors and monitoring of diseases. In addition, those Veterans who reside in this rural area that have far distances to travel to reach a VA facility will be able to subscribe to a high-speed service that would provide video conferencing.

e. A description of how the proposed project will affect the ability of students to access educational opportunities from home.
- Specific information on the likely number of students that will benefit from improved access to educational opportunities from home would be useful.
- Specific information regarding educational programs that are currently available for students in the project area would be useful.

According to Northwest Wisconsin Broadband Survey Report, Northern Wisconsin Counties have 25% households with children. K-12 students will benefit from better connections for as well as the many more households that school from home beyond High School level education. See Exhibit C – Survey results for supporting data on households with children and broadband usage for education.

All customers that request Norvado broadband services will be pleased to know that all students in the household will have more than adequate broadband speeds for all homework assignments, research, and access to all educational opportunities on the web. Students that are assigned a computer, by the area School District, will now be able to do assignments, school projects and homework from home. Also, online undergraduate, and graduate education programs will be available to all households. All available at very reasonable pricing as provided in the Executive Summary.

f. A description of actions taken by a city, village, town, or county in support of the grant application, including that have not been discussed in the context of a public-private partnership above, but not limited to:
- The contribution of funds, easements, or permissions to use publicly owned real estate, construction materials, or other items of value to the grant project.

The Town of Bass Lake provided a letter of support. See Exhibit A.

- The contribution of in-kind assistance to the grant project in the form of waived fees and expenses for obtaining use permits and permissions.
  N/A
- The contribution of other items of benefit to the grant project, such as public outreach and education, vehicles, water, etc.
  N/A
- Certification as a Broadband Forward Community or Telecommuter Forward Community.

Sawyer County is both a Certified Broadband Forward! and Telecommuter Forward! Community.

g. Letters and messages in support of the application submitted by prospective customers, local government officials, and other interested persons.

See Exhibit A and Table of Contents for a list of Letters of Support

h. Any other equitable factor that the applicant desires to discuss, including one or more of the factors in Wis. Stat. § 196.03(6) that the applicant believes its project would advance. In discussing this element, the following information may be useful:

1 Technical support and training materials that the applicant intends to provide.

Norvado has 24/7 customer technical support service as well a comprehensive knowledgebase on our website that offers answers to most questions through self-help and technical manuals with access 24/7/365. Norvado also has a tier 2 level of support for escalations and provides IT as a service offering help desk support for business accounts. Norvado offers managed WIFI service for residential subscribers wanting a fully supported broadband solution.

2 Information that the applicant intends to use to promote better broadband adoption and use.

We do multiple mailings to every address to discuss Fiber to the Home (FTTH) in all our grant projects. We provide the new customers with information, including the stages of building our all-fiber optic network to them. Customers are given links to our website for permission slips to bury fiber optics on their property, and customers can select the services bundle they want to have installed. There is no need to lock the customers into any contract; we know bringing a future proof all fiber network is mission critical. Our mindset is to build it once and to build it right.

3 A description of a program or outreach to provide assistance to individuals of low income.

Norvado provides various programs and outreach to provide assistance to individuals of low income, including the following:

- *As an Eligible Telecommunications Carrier Norvado provides discounts to resident customers for broadband service in accordance with Section PSC 160.062 Lifeline Program of the Wisconsin Administrative Code and FCC regulations for Lifeline support.*

- *Norvado participates in the Affordable Connectivity Program (ACP). ACP provides a benefit of up to $30 per month for broadband service to those who meet the program's criteria. The Federal Communications Commission is working on outreach and other guidelines for the ACP.*

i. Secondary benefits of this project include.

- *Telecommuting. Norvado currently offers and encourages the Towns to promote the Telecommuting focused service offerings to the Project area.*
- *Tourism. Because of the robust natural resources, vast recreational trails, and miles of scenic roads, the Project Area is a large tourism destination. Many tourists will spend extended vacation times in the area if they have broadband Internet access service which allows them to work out of their vacation location.*

- *Increased tourism not only helps economic development in the area by increased job opportunities but also sales of products and services for the local business community.*
- *For more economic impacting benefits that are a direct result of gigabit fiber to the home network connectivity see section* 3.2.4(g).

Exhibits

Exhibit A:
Letters of Support

Town of Bass Lake, Sawyer County
14412 W County Highway K
Hayward, WI 54843

Telephone (715) 634-8469
Fax (715) 634-8470

March 15, 2022

Public Service Commission
State of Wisconsin
4822 Madison Yards Way
Madison, WI 53705

To whom it may concern,

On behalf of the Town Board of the Town of Bass Lake, Sawyer County, this is a letter of support of the Wisconsin Public Service Commission (PSC) Broadband Expansion Grant proposed by Chequamegon Communications Cooperative d/v/a Norvado, located in Cable, Wisconsin.

The proposed project includes areas in the Town of Bass Lake, Sawyer County and would serve both unserved and underserved households where residents cannot receive a wireline connection that reliably delivers 25 Mbps download and 3 Mbps upload. A Wisconsin PSC Broadband Expansion Grant would further economic development and improve quality of life for the residents and businesses in this area.

The Town of Bass Lake, Sawyer County strongly encourages the approval of this application by awarding the requested Wisconsin PSC Broadband Expansion Grant to Norvado.

Sincerely,

Erica Warshawsky, Clerk

WISCONSIN LEGISLATURE

P.O. Box 7882 • Madison, WI 53707-7882

March 15, 2022

Public Service Commission of Wisconsin
Water, Telecommunications, and Consumer Affairs Division
Post Office Box 7854
Madison, Wisconsin 53707-7854

Dear Public Service Commission:

We write to express our support for Norvado's application for a Broadband Expansion Grant for their Windigo Lake project in Sawyer County. We strongly urge the commission to approve this grant request.

With the funding from this grant, Norvado will be able to dramatically improve its broadband coverage with state-of-the-art fiber to 130 locations near Windigo Lake in the Town of Bass Lake in Sawyer County. Currently, internet speeds available to the people in this area simply do not meet the needs of today's technologically advanced world. During our time serving in the Legislature, the need for improved high-speed internet access is one of the most common concerns we hear about from constituents, including those in the area of this proposed project. The lack of high-speed internet in this area hurts economic growth, limits educational opportunities, and diminishes the quality of life.

Norvado is an independent, Wisconsin-based, telecommunications company that is committed to serving rural communities in Northern Wisconsin. We are confident in their ability to enhance broadband service in this area. If approved, this $522,797 grant would cover 50% of the project's estimated $1,045,594 cost. We are excited to see a company like Norvado willing to invest in expanding access to reliable high-speed internet in our districts. Should this project come to fruition, it will go a long way to address the lack of high-speed internet access in this area. However, without the requested funding from the Broadband Expansion Grant Program, it will not be financially feasible for Norvado to pursue this much-needed project.

We sincerely appreciate your consideration. Should you have any questions or if we can be of assistance, please do not hesitate to contact us.

Sincerely,

James W. Edming
State Representative
Wisconsin's 87th Assembly District

Jerry Petrowski
State Senator
Wisconsin's 29th Senate District

Exhibit B:
Public Private Partnership Agreement(s)

None.

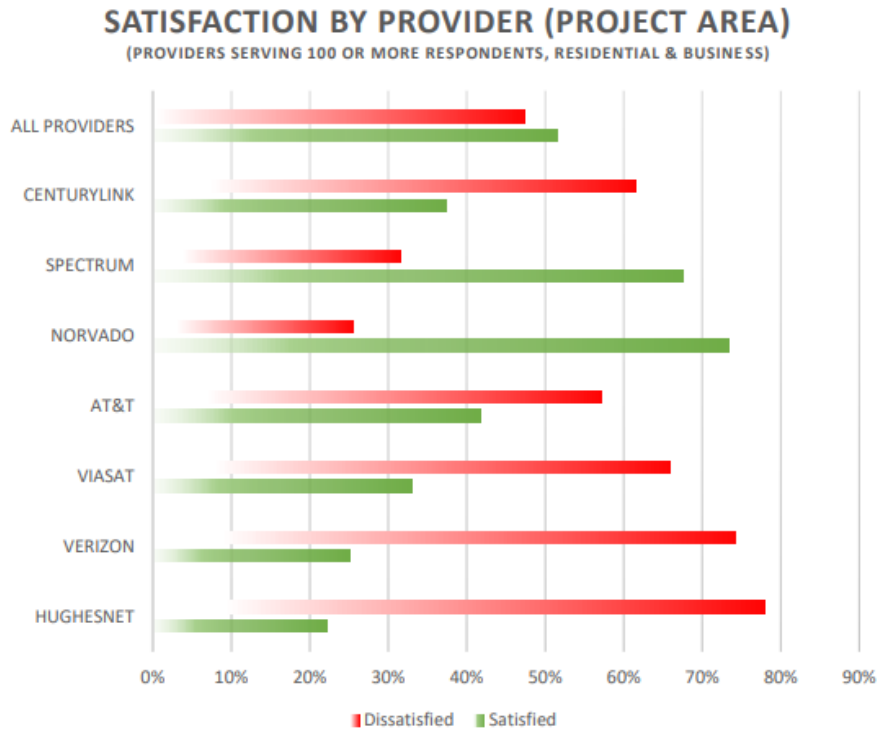
Exhibit C:

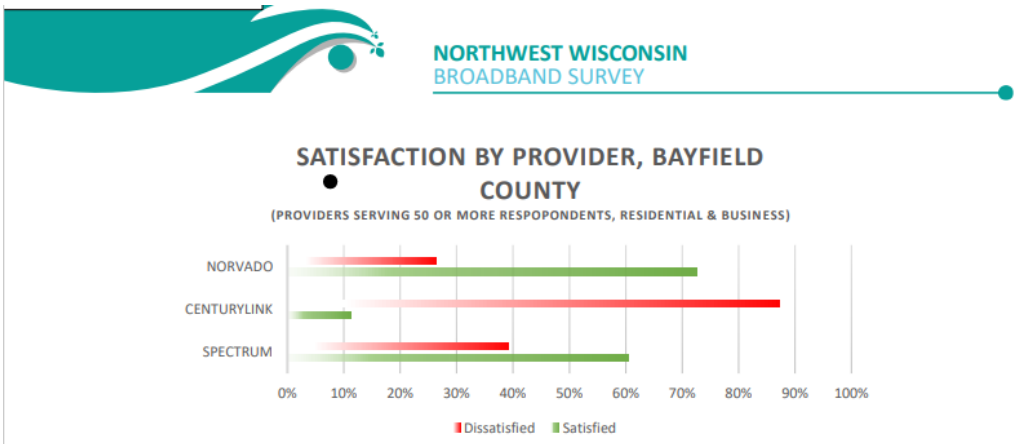
Broadband Survey Results – Northwest Wisconsin Broadband Survey Report

Indicating Norvado's proven success as a company dedicated to constructing fiber to the home broadband networks and providing the highest level of customer service and satisfaction. Data to support for the benefit of broadband for school, telemedicine, work from home (telecommuting), all aiding in economic development.

Norvado ranks as region's Highest Satisfaction, Lowest Dissatisfaction broadband provider

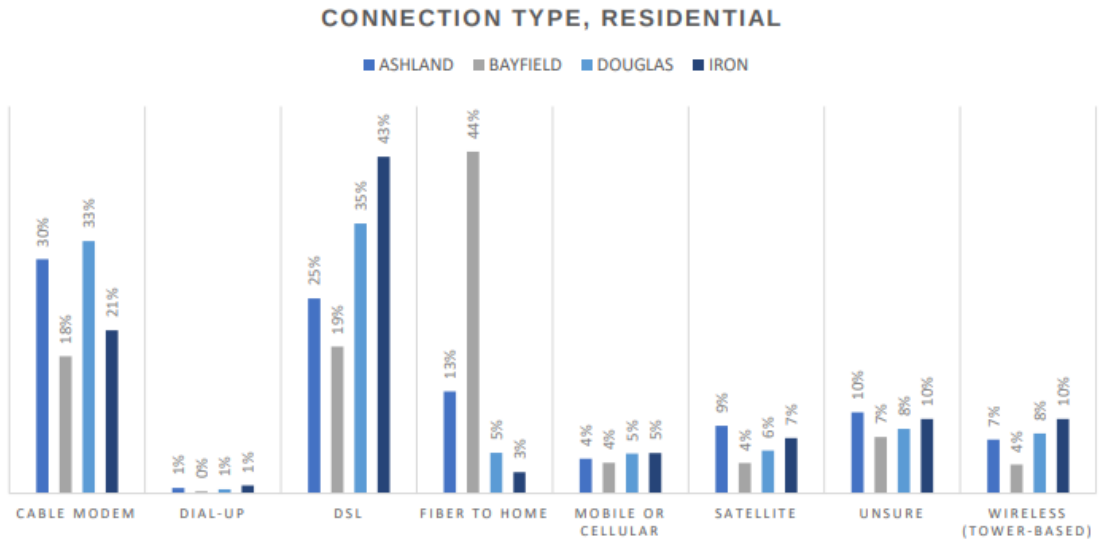
Credit : *Northwest Wisconsin Broadband Survey Report*





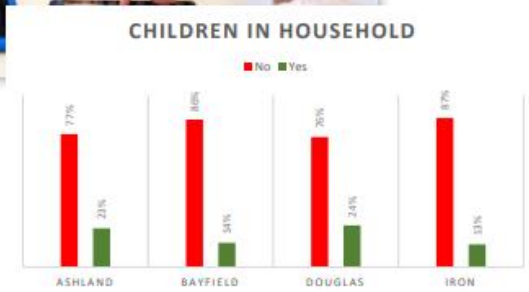
Proving – we deliver fiber !

"The relatively high number of fiber subscribers in Bayfield County are a direct result of Norvado's Fiber-to-theHome (FTTH) expansion efforts in the region"



In terms of the number of subscribers, CenturyLink® is the dominant internet service provider in the study area (43% respondents), followed by Spectrum® (25% respondents), and Norvado (15% respondents). Of the dominant ISPs in the study area, Norvado is the only locally-based provider.

HOMES WITH CHILDREN



The number of survey responses received from households without children was notably higher than those from households with children. Data collected by the Wisconsin Department of Public Instruction via the Wisconsin Digital Equity Home Internet Survey shows that 3.2% of K-12 students in households with school age children in Wisconsin did not have access to the internet at home. This can likely be attributed to both availability of service and internet affordability.

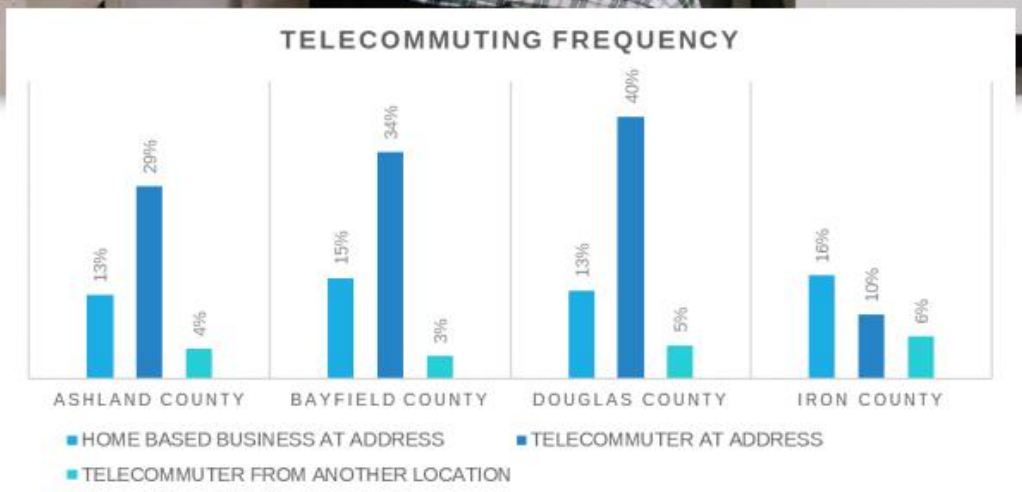
	Ashland	Bayfield	Douglas	Iron
Households	6,565	7,057	19,011	2,898
Households with children	25%	22%	27%	18%

INTERNET USAGE CHARACTERISTICS

(1) Most frequent use of internet, (2) second most frequent, (3) third most frequent

	ASHLAND	BAYFIELD	DOUGLAS	IRON
Buying/Selling	(3) 59%	31%	36%	(1) 57%
Community Organizations	31%	22%	14%	21%
Education K-12	18%	9%	13%	8%
Education Other	24%	17%	20%	22%
Employment	32%	21%	29%	21%
Entertainment	81%	(1) 63%	(1) 65%	(2) 50%
Gaming	31%	9%	15%	19%
Medical Services	57%	32%	33%	34%
Other	12%	16%	13%	7%
Physical Fitness	24%	11%	12%	14%
Security	23%	32%	34%	18%
Shopping	(1) 86%	(2) 52%	(2) 53%	(2) 50%
Smart Home	19%	22%	21%	16%
Social Media	(2) 78%	(3) 45%	(3) 52%	(3) 47%
Telecommuting	29%	29%	28%	17%
Travel	33%	19%	18%	27%

HOME-BASED BUSINESS/TELECOMMUNTING



The northwest Wisconsin broadband survey provides a "snapshot in time" of contemporary internet-related issues in Douglas, Bayfield, Ashland, and Iron Counties. This information is intended to be used by community leaders, economic development groups and local units of government to identify and prioritize community-level actions to improve broadband in the region.

KEY FINDINGS

- There appear to be notable key inhibitors to broadband deployment in the region, including low population density, distances from major transportation corridors, heavily forested terrain, lack of communication and joint planning between service providers and communities and deployment costs/return of investment.
- There is a notable lack of competing options. Where internet service is available, in many cases it's only through a single service provider. Consumers in the region generally have few, if any, options.
- There are distinct broadband coverage gaps in each of the four counties surveyed and the overall provision of service varies widely across the region. With the exception of the Norvado service territory, urban areas tend to have better service options than rural, outlying areas.
- High costs for internet service. Nearly 23% of residential survey respondents indicated they were paying more than $100 per month for service, a cost which is nearly double the national average.
- Having access to a local service provider clearly makes a difference. The infrastructure investments made by Norvado have significantly improved broadband coverage in their service area. National service providers have made comparatively few infrastructure upgrades within the rural portions of the survey area.
- Even if a large portion of the population wanted to subscribe to broadband, in many rural areas throughout the region there is simply not enough demand for the service to justify the level of private investment needed for deployment. This remains a hard reality without either technological changes that significantly reduce costs or substantial subsidies from government.
- Significant discrepancies exist between ISP reported broadband data and what people and businesses reported in the survey. The aggregated Census block level characterization of services provided did not accurately reflect actual service areas in many cases and reported speeds did not correlate with what homes and businesses reported receiving.
- Even though the majority of businesses who responded to the survey were located within, or in close proximity to urban areas (where services are typically better), they expressed many similar broadband-related concerns as residential users.
- Lack of broadband, or access to adequate broadband for their needs has caused some businesses to consider relocation.

RECOMMENDATIONS TO PROMOTE BROADBAND EXPANSION

- Identify coverage area gaps and prioritize locations where broadband coverage should be extended. This survey provides a basis for conducting this analysis. In addition to service gaps, areas served by only one broadband provider, or areas where the speed level falls below the federal benchmark of 25 Mbps/3 Mbps, should also be a part of the gap analysis.
- **Develop public-private partnerships with internet service providers to fill unserved and underserved gaps.** Engage with existing local providers and regional/national providers with a presence in the region to determine what opportunities to partner to address the challenges outlined in this report Brainstorm possible collaboration models that benefit both the business and residential communities and account for broadband access and expansion. Successful broadband expansion efforts are most often a direct result of community/provider engagement and joint planning.
- Work to promote technological literacy and foster understanding of how to use the internet in an effective and advantageous way. Given the significant number of responses where individuals cited "don't know" (more than 25% of respondents when asked about internet speeds) or "unsure" (nearly 10% couldn't identify the type of internet connection they used) it's clear that there are social variables present contributing to the digital divide in this region.
- **Coordinate County initiatives with state efforts and State funding programs.**
- Promote the new Emergency Broadband Benefit program to provide temporary relief on bills and purchases for eligible residents. The program will **expire** when funds are exhausted or six months after the Department of Health and Human Services (HHS) declares the end of the COVID-19 health emergency.
- Federal and State funding sources represent an important element of large-scale broadband deployments, though only for unserved areas where no broadband is currently available. While these programs tend to have restrictions that affect their potential breadth of impact, these programs have the potential to assist each County's efforts to greatly reduce the number of homes and businesses that are entirely unserved.
- Consider enacting local "dig once" policies which require public and private excavators to coordinate with local government on the installation of extra fiber or conduit (empty) whenever ground will be broken in the public right-of-way (ROW). Such policies enable future providers to install fiber more easily and cheaply by threading it through existing conduits. Installing empty conduit, which is relatively inexpensive during construction projects, supports future expansion by substantially lowering the expense of excavation for service providers.

Other feedback added to survey comments.

- We were fortunate that Norvado allowed us to have a line run to our home/business. We live in an area where we are the only people who have access to Norvado at this time. We could not do our work if we did not have their broadband services. The lack of afforable high speed internet is a real problem for our communities of northern Wisconsin!

- Centurylink in Ashland (at our address) is slow, inconsistent, and will not be updated- they have told us this. They also provide internet for Dish and Direct-tv so no improvement there! We would LOVE Norvado!
- CenturyLink has received millions in grants to expand their high-speed internet, and each time it is not made available to the locations most in need of it. It's time to hold them accountable AND offer alternatives. Norvado would be awesome if we could get them into Douglas County.

- Our current service is terrible. If we could move our business to Bayfield County or had access to Norvado we would move or subscribe to Norvado, based in Bayfield County.